AN

ESSAY

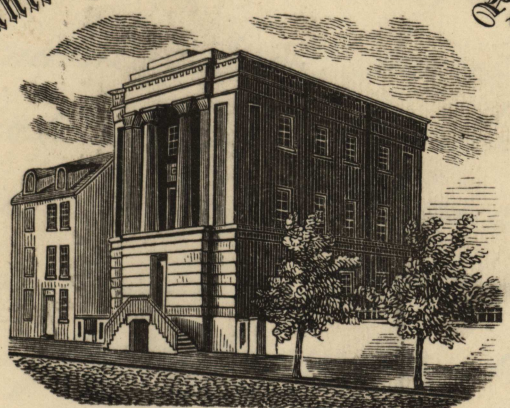
ON

Diphtheria

RESPECTFULLY SUBMITTED TO THE FACULTY

of the

Homœopathic Medical College of Pennsylvania,



FOR

The Degree of Doctor of Medicine

BY

Franklin J. Slough of Lehigh Co. Pa.

Philadelphia, February 1st 1862

Diphtheria

This disease is characterized by an exudation upon the posterior part of the throat. The name Diphtheria or Diphtheritis as it is sometimes called is derived from the Greek word Diphthera meaning a skin or membrane. Various names have been given to this affection, which were no doubt given by Physicians according to their peculiar ideas of the pathology of the disease. Thus it has been called Malignant Angina, Diphtheria Anginosa, Membranous Angina, and Angina of the Gangrenous form, also Pseudo-Membranous Pharyngitis, but at present the disease goes generally by the name Diphtheria.

Bretonneau of France was the first man who dispelled the confusion, with which this disease was invested, and he applied the term Diphtheritis from the Greek word Diphthera meaning a skin or membrane.
The first practical researches upon the nature of Diphtheria were made by Bretonneau in 1820-1823. Since that time the disease has prevailed in France, more lately in England, and has within the last few years made its appearance in the United States. A good many of the people at the present time suppose it is a new disease, but it appears to have

been known to the Ancients, and Huxham refers to it as early as 1757. It is therefore not a new disease, but no very distinct accounts have been given of it till that of Bretonneau. Dr Bard is perhaps among the oldest writers on this subject, in this Country, and one of the first who gives a good account of it. It has also been carefully studied by Guersant, Trousseau, Isambert, Andral, Barthez, Empis &c. and also by many English writers.

Symptoms. In some cases the Child - for Children are mostly the subjects of it, appears to ail so little, that the parents

will think there is not much the matter. The patient may be running about, where there is slight difficulty in swallowing making but very little complaint. In other cases the Child is prostrated at once, and in a very short time the patient may be past recovery. In most cases the throat is the the first place in which the disease makes its appearance, but I have seen cases where the fever was noticed the earliest, and there was no complaining of the throat until some hours afterwards. On inspection you will sometimes perceive that the Tonsils, soft palate and Uvula are seen to be simply red and

oedematous. But the disease will be but a very short time in this condition, (before the exudation commences), and by a careful examination of the fauces, you will perceive one or more white patches on the tonsils, perhaps not larger than a split pea. This patch or patches is the diagnostic sign of the disease, and unless speedily checked by appropriate treatment, is apt to spread over the whole soft palate, and often invades the trachea and bronchial tubes which will mostly become fatal. The consistency of the patches varies, sometimes it is soft and can be broken down with

a spoon, at other times it is a tough membrane much like leather, and can be torn into shreds. The cervical glands often become considerably enlarged, so that it is difficult for the patient to open his mouth.

When the whole fauces are covered with the exudation, there will be intense heat of the skin, excited pulse, and in cases of great severity, collapse, and a cold surface. Deglutition which was at first little impeded, now becomes more difficult and painful, so much so that the patient refuses to take either food or physic, if the patient under these circumstances is

forced to ~~to~~ swallow, the scene is often a fearful one, and he gasps for breath, while the food is violently ejected from the nostrils and mouth. The case has now assumed a formidable aspect; the patient is enfeebled by its inability to take food, the false membrane has invaded every part of the pharynx, the breath has for some time been offensive, but is now horribly so, so that it is very disagreeable to be near the patient, and sometimes to be in the room. The external glands of the neck are tender and enlarged, in some cases we perceive difficulty in breathing attended with a croupy sound,

this shows that the membrane has spread to the larynx and trachea, very few recover under these circumstances, symptoms of asphyxia soon show themselves, the skin becomes cold and covered with petechia, the countenance livid, and the poor sufferer struggles on hours after the pulse has ceased, trying to get breath, throwing itself about, until a very short time before its death.

This exudation often travels to the nostrils, blocking up the nasal passages which gives rise to acrid and offensive discharges often excoriating the upper lip, and causing ulceration of the angles

of the mouth, with the same deposit upon them, frequently also invading the eyelids. In the mildest forms of Diphtheria it may extend to the larynx and become a severe case. In many cases the symptoms are not severe in the beginning of the disease, and yet in the end the patient dies. I have seen cases where I supposed the patients were almost certainly free from the disease, and in a short time there was Croupy breathing and the patient beyond hope. They may linger five or six days with intermissions from eight or twelve hours, the croupy breathing cease, the patient

sits up, eats, drinks, and amuses himself, but in a few hours the croupy breathing returns and joy is turned into mourning to end only in death.
In severe cases of Diphtheria the Urine is Albuminous, when this condition is present the Prognosis is generally unfavourable. The stomach is sometimes irritable, and the bowels though at first generally disposed to constipation, are apt towards the close of the disease, to be affected with a fetid diarrhoea, but these results are ascribable to the acrimony of the liquid secreted in the fauces some of which is swallowed.

The Diphtheritic expudation differs markedly from that of Thrush and also in some points from Scarlatina. In Thrush the white coating appears first in several points, which afterwards coalesce, it can be easily removed without affecting the integrity of the mucous membrane or causing the least Hemorrhage, While the Diphtheritic expudation can seldom be detached, without bringing on expudation of more or less blood, Under the Microscope this deposit exhibits the constituents of a false membrane. The expudation in Scarlatina occurs mostly in points like Thrush, though it is less adherent to

the mucous membrane and not near so much disposed to spread into the larynx and also less disposed to make its appearance elsewhere upon the surface that may be exporiated. The duration of the disease is usually from twenty four hours to fifteen days, sometimes even longer, it depends upon the severity of the disease.

I have seen patients affected with Diphtheria that have died in twenty four hours from the first seizure, but it may also continue several weeks and ~~and~~ then prove fatal. If the case is a favourable one improvement may be looked for usually

on the fourth, fifth and sixth days. Sometimes when the symptoms are decidedly croupal, the false membrane has been expectorated with relief to the difficulties in breathing almost immediately but these are very rare instances. In different seasons it may follow different habitudes, in one we find it inclined to invade the nasal fossa, while another epidemic is characterized by a disposition to attack the larynx, trachea and bronchial tubes, the cases in which the disease is located in the nasal fossa are more favourable than where they involve the larynx.

The sequelæ of the disease are sometimes very troublesome, the debility and nervous depression ~~is~~ is often very great, in some cases there is paralysis of the upper and lower extremities, total loss of appetite, such great prostration that the patient can hardly speak, I have seen several cases where the person was allowed to get up too soon, and died of the consequence. Another common sequelæ is Albuminuria, Dropsy, occasionally purulent discharges from the ears. These sequelæ are very much the same as in Scarlatina, but I have never seen a case yet where there was suppuration

of the Cervical Glands. With regard to the time of life in which Diphtheria occurs, it is supposed to be almost exclusively confined to Children, and there is no doubt that it occurs much more frequent in Children than in Adults, and yet when it prevails epidemically it attacks the latter. I have seen it even in quite old people. The reason why it is chiefly confined to Children, may be explained by the fact that the blood in early life abounds in fibrine, and that there is an unusual amount of it deposited in all inflammations as in pleurisy, pneumonia &c. If the Child is in a sthenic state when attacked there is healthy

fibrine exuded, susceptible of organization; but if the child is in an asthenic state, there is an aplastic material thrown out. Pathology. All accounts which we have of Diphtheria concur in pointing to the false membrane as the great feature of the disease, it is mainly confined to the fauces and upper part of the respiratory tract, and upon an examination the soft palate, the back of the pharynx and the tonsils, will be seen covered with an ash colored or white, or yellowish or brownish leathery false membrane, of a very fetid odor, sometimes more or less torn up, below this the mucous surface is livid

possibly excoriated, but does not ulcerate or slough as in ulcerated or putrid sore throat.
Where we detach the Diphtheritic membrane, we will see that blood and fetid sanies exudes, also little filaments are observed, extending from the membrane to the surface upon which it had been resting. The membrane may extend to the upper part of the oesophagus and may be traced into the posterior naves, sometimes it invests the glottis and in fatal cases it has gone through the entire larynx and trachea and even to the larger bronchial tubes which impeded respiration, in cases where external swelling has been

great, the submaxillary glands will be found engorged. When the false membrane is closely examined it has the character of a fibro-plastic membrane, similar to that in inflammatory croup but it is softer and thicker, in the larynx it is also of a much whiter color. If it invades the larynx and trachea it is true croup or the same thing, at least I cannot find a difference, but when it is in the pharynx it is a croup of the pharynx. In true Diphtheria any cutaneous surface, which is deprived of its epidermis, may become Diphtheritic and be covered with a false membrane.

causes. Some of the highest authorities of the profession say it is contagious, while others entertain a directly opposite opinion, some say it is only contagious in its epidemic and malignant forms. According to my opinion it is not contagious, but there are some good reasons why it may be considered so, and about as many that it is not. Therefore in cases of doubt there is always a safe side to take. I have always seen my preceptor acting as though it were contagious, and withdrew other children from its influence, and always advised the nurses and attendants not to go so near the

patients as to inhale the breath.
This shall also be my plan, then
according to my opinion, whether
it be contagious or not we will
be on the safe side.
Moisture, dampness and certain
sudden atmospheric influences
often develope it, by exciting
an inflammation, which
would under ordinary circumstances be but ordinary angina,
but when this epidemic condition
of the Atmosphere exists, it may
turn out to be Diphtheria, and
I have observed that persons
of low vital powers, particularly
of the scrofulous diathesis are
more subject to it than others.
In places where poor people

live in houses crowded full of Children, with poor ventilation, the disease is especially prone to manifest itself.

Diagnosis. Besides thrush and sore throat of Scarlatina, the only complaints with which this disease can be confounded are Common Angina, Ulcerated, Gangrenous or Malignant sore throat and pseudo membranous Croup.

It is readily distinguished from thrush by the exudation in the fauces. It is only in those instances in which the exudation extends into the larynx, that it can be confounded with pseudo-Membranous Croup.

The relations of Diphtheria to Scarlatina are of great importance, in the first place membranous exudations such as occur occasionally in Scarlatina are always present in Diphtheria. We also know that the glands of the throat and the submaxillary glands are very often enlarged, in bad cases of Scarlatina the nostrils obstructed, while there is also sometimes a membranous exudation on the angles of the mouth, at the eyelids, or behind the ears, From this it would appear that Scarlatina is very similar to Diphtheria, except that there is no characteristic eruption in Diphtheria.

But it is also known that the most malignant forms of Scarlatina exist sometimes without an eruption, or when there is an eruption it is exceedingly pale and faint, yet we know that the disease is Scarlet fever, because other members of the family are sick with undoubted cases of Scarlet fever. It is believed that these two diseases prevail together, their sequelæ are very much the same, Albuminuria, excessive prostration, purulent discharges from the ears. But in Diphtheria we have no suppuration of the Cervical glands, and the membranous exudation of Scarlatina rarely invades the

larynx, but in Diphtheria the tendency is constantly to the larynx and here lies the great danger. My own opinion is that the two diseases are distinct from each other, I have seen a good many cases of Diphtheria without considering them as cases of Scarlatina but I admit that there is a strong analogy between them. Diphtheria is not a local affection, it is owing to some particular condition of the blood, there is probably some altered condition of the fibrine of the blood.

Prognosis. In regard to the prognosis of this disease I am pleased to state that it is most always favourable under

Homoeopathic treatment, which is far from being the case with Allopathic treatment, this I have seen often myself. My Preceptor treated very near two hundred cases of Diphtheria with the loss of but five of them, I have treated ~~very~~ ~~near~~ a good many of those cases myself, under the instructions of my preceptor, and I have always found Diphtheria very favourable under our treatment. But the Physician ought always to be called early to the case, then is the time to get the start of the disease, but if the people wait till the disease has extended to the larynx, it will sometimes be a difficult thing to cure the patient.

The sequelæ of Diphtheria are sometimes very troublesome, and will occasionally end fatally. The disease is also not so favourable in old persons and very young children as in adults of Middle Age.
Treatment. We have tried a good many remedies, and received the greatest benefit from the following. Aconite, Belladonna, Capsicum Annuum, Hercurius Vivus, Lachesis, Iodine, Rhus Toxicodendron. We have tried the following but not with so much success, Antimonium Crudum, Apis Mellifica, Bryonia, Canthurides, Arsenicum Album, Biniodide of Mercury, Hepar Sulphur and Spongia.

I have always found Aconite ample for subduing the febrile action, in high fever, heat of skin, dry tongue, full and rapid pulse, offensive breath, redness of the fauces, with several patches. My preceptor always gave Aconite as low as the 3 Potency in water, and it always did very well when those symptoms were present. As soon as the febrile symptoms are subdued, Aconite should not be given so often, and give one of the more prominent remedies. Belladonna. This is considered the prominent remedy, we prescribed it when there was a white coating on the tongue

dryness of the mouth and fauces, impeded deglutition, strings of mucus hanging out of the mouth, and the exudation is white, tenacious, viscid mucus, with frequent spitting. When the pains are of the stitching character, the patient desires drink, when the exudation looks yellowish red.

We always gave Belladonna the 6th Potency, two or three drops ~~full~~ of in a cup full of water, then every hour a teaspoonfull.

Capsicum Annuum. I have often seen Capsicum do very well, but mostly in the beginning of the disease,

my Preceptor tried it in the last stage but it did not do so well, but in the beginning it acts remarkably well.
Mercurius Vivus. This is indicated when there are stitching pains in the throat, as if the patient had to press hard to get anything down, when the back part of the throat has a dingy, yellowish appearance, swelling of the submaxillary, parotid and sublingual glands, great redness of the affected part, so that it is impossible for the patient to open his mouth wide, the effort being always attended with a great deal of pain,

we have used Mercurius Vivus the 12 Potency in water, as often as Belladonna, sometimes we used the two remedies in alternation.

Lachesis is indicated in most cases where Belladonna and Mercurius Vivus have seemed to be appropriate, but have failed to produce a curative reaction, it has the burning and dryness of the throat, difficulty of breathing, constant thirst, face bloated, eyes dull, pulse small and hurried, with tendency to gangrene about the fauces.

Iodine. I have seen Iodine do very well in cases of

Diphtheria, it is especially indicated when there is much glandular swelling, hoarseness, when the larynx is affected,
Hepar Sulphur and Spongia when there was a croupy condition.
The remaining remedies were given according as they were indicated.
Local Applications, we did not use much local applications sometimes cold water, and in a few cases gargles of milk.
Diet. The diet should be carefully and well prepared for the patient, and given to them at suitable times.
Beef tea if it is well prepared is

a good article. Milk punch, Wine, whey &c. The constant tendency of the disease is to prostration, therefore the administration of a stimulating diet is very necessary. Also a good many other articles of diet that will not interfere with the medicine and do no harm to the patient.